

In the Claims:

10/14/2008

**1. (previously presented)** A pigment, the particles of which have a length of from 2  $\mu\text{m}$  to 5  $\mu\text{m}$ , a width of from 2  $\mu\text{m}$  to 2  $\mu\text{m}$ , and a thickness of from 20 nm to 2  $\mu\text{m}$ , and a ratio of length to thickness of at least 2 : 1, wherein the particles consist of a core of  $\text{SiO}_y$  with  $1.1 \leq y \leq 1.8$ , having two substantially parallel faces, the distance between which is the shortest axis of the core, and

(a) a dielectric material layer having a high index of refraction

and

optionally an additional layer or layers, which layer or layers consist of a material selected from a dielectric material having a high index of refraction, a dielectric material having a low index of refraction, one or more inorganic colorant, one or more organic colorant, a semi-transparent metal layer and mixtures thereof, wherein the metal of the semi-transparent metal layer is selected from Cr, Mo, W, Al, Cu, Ag, Au and Ni, and

which pigment particle may also have a surface treatment.

**2. (previously presented)** A pigment, the particles of which have a length of from 2  $\mu\text{m}$  to 5  $\mu\text{m}$ , a width of from 2  $\mu\text{m}$  to 2  $\mu\text{m}$ , and a thickness of from 20 nm to 2  $\mu\text{m}$ , and a ratio of length to thickness of at least 2 : 1, wherein the particles consist of a core of  $\text{SiO}_y$  with  $1.1 \leq y \leq 1.8$ , having two substantially parallel faces, the distance between which is the shortest axis of the core, and

(a) a thin semi-transparent metal layer wherein the metal is selected from Cr, Mo, W, Al, Cu, Ag, Au and Ni

and

optionally an additional layer or layers, which layer or layers consist of a material selected from a dielectric material having a high index of refraction, a dielectric material having a low index of refraction, one or more inorganic colorant, one or more organic colorant, a semi-transparent metal layer and mixtures thereof, wherein the metal of the semi-transparent metal layer is selected from Cr, Mo, W, Al, Cu, Ag, Au and Ni,

which pigment particle may also have a surface treatment.

**3. (previously presented)** The pigment according to claim 1, wherein the pigment particle consists of the core of  $\text{SiO}_y$ , the dielectric material layer (a) and

(b) a metal oxide of low refractive index layer, wherein the difference between the high and low of the refractive indices is at least 0.1 and

optionally an additional layer or layers, which layer or layers consist of a material selected from a dielectric material having a high index of refraction, a dielectric material having a low index of refraction, one or more inorganic colorant, one or more organic colorant, a semi-transparent metal layer and mixtures thereof, wherein the metal of the semi-transparent metal layer is selected from Cr, Mo, W, Al, Cu, Ag, Au and Ni, and

which pigment particle may also have a surface treatment.

**4. (previously presented)** The pigment according to claim 1, wherein the dielectric material having a high index of refraction is a metal oxide and is one or more compounds selected from the group consisting of  $\text{TiO}_2$ ,  $\text{ZrO}_2$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{Fe}_3\text{O}_4$ ,  $\text{Cr}_2\text{O}_3$ ,  $\text{ZnO}$ , an iron titanate, an iron oxide hydrate and a titanium suboxide or a mixed phase of these compounds.

**5. (previously presented)** The pigment according to claim 3, wherein the metal oxide of low index of refraction is one or more compounds selected from the group consisting of  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{AlOOH}$  and  $\text{B}_2\text{O}_3$ , wherein alkali or earth alkali metal oxides can be contained as additional component.

**6. (previously presented)** The pigment according to claim 1 wherein the  $\text{SiO}_y$  core has a thickness of from 20 to 200 nm.

**7. (previously presented)** A process for producing the pigment according to claim 3 by alternately coating  $\text{SiO}_y$  flakes with a metal oxide with a high refractive index and a metal oxide with a low refractive index in a wet process by hydrolysis of the corresponding water-soluble metal compounds, by separating, drying and optionally calcinating the pigment thus obtained.

**8. (original)** A process for producing the pigment according to claim 2, wherein  $\text{SiO}_y$  flakes are suspended in an aqueous and/or organic solvent containing medium in the presence of a metal compound and the metal compound is deposited onto  $\text{SiO}_y$  flakes by addition of a reducing agent.

**9. (currently amended)** A pigment, the particles of which have a length of from 2  $\mu\text{m}$  to 5 mm, a width of from 2  $\mu\text{m}$  to 2 mm, and a ratio of length to thickness of at least 2:1, wherein the particles consist

of a core with a thickness of from 20 to 200 nm with high plane-parallelism and a defined thickness in the range of 30% of the average thickness of  $\text{SiO}_2$  or a silicon/silicon oxide core obtained by heating  $\text{SiO}_y$  flakes with  $1.1 \leq y \leq 1.8$ , in an oxygen-free atmosphere at a temperature of at least  $400^\circ\text{C}$ , having two substantially parallel faces, the distance between which is the shortest axis of the core; and

a material layer having a high index of refraction, and

optionally an additional layer or layers, which layer or layers consist of a material selected from a dielectric material having a high index of refraction, a dielectric material having a low index of refraction, one or more inorganic colorant, one or more organic colorant and mixtures thereof, and which pigment particle may also have a surface treatment.

**10. (cancelled)**

**11. (previously presented)** Paints, printing inks, textiles, coatings, plastics, cosmetics, glazes for ceramics and glass, which are pigmented with a pigment according to claim 1.

**12 (previously presented)** A pigment according to claim 1, wherein the dielectric material having a high index of refraction is a metal oxide.

**13. (cancelled)**

**14. (previously presented)** A pigment according to claim 3, wherein the dielectric material having a high refractive index is one or more compounds selected from the group consisting of  $\text{TiO}_2$ ,  $\text{ZrO}_2$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{Fe}_3\text{O}_4$ ,  $\text{Cr}_2\text{O}_3$ ,  $\text{ZnO}$ , an iron titanate, an iron oxide hydrate and a titanium suboxide, or a mixed phase of these compounds.

**15. (previously presented)** The pigment according to claim 1, wherein the  $\text{SiO}_y$  core has a thickness of from 50 to 150 nm.

**16. (previously presented)** The pigment according to claim 1, wherein the  $\text{SiO}_y$  core has a thickness of from 60 to 120 nm.

**17. (previously presented)** The pigment according to claim 2, wherein the  $\text{SiO}_y$  core has a thickness of from 20 to 200 nm.

**18-19. (cancelled)**

**20. (previously presented)** A pigment according to claim 9, wherein the thickness of the particle core is from 50 to 150 nm and the material having a high index of refraction is a metal oxide.

**21. (previously presented)** Paints, printing inks, textiles, coatings, plastics, cosmetics, glazes for ceramics and glass, which are pigmented with a pigment according to claim 2.

**22. (previously presented)** A pigment according to claim 1, wherein the dielectric material having a high index of refraction is one or more compounds selected from the group consisting of ZnS, ZnO,  $\text{ZrO}_2$ ,  $\text{TiO}_2$ , carbon,  $\text{In}_2\text{O}_3$ , indium tin oxide,  $\text{Ta}_2\text{O}_5$ ,  $\text{Cr}_2\text{O}_3$ ,  $\text{CeO}_2$ ,  $\text{Y}_2\text{O}_3$ ,  $\text{Eu}_2\text{O}_3$ ,  $\text{Fe}_3\text{O}_4$ ,  $\text{Fe}_2\text{O}_3$ , HfN, HfC,  $\text{HfO}_2$ ,  $\text{La}_2\text{O}_3$ ,  $\text{MgO}$ ,  $\text{Nd}_2\text{O}_3$ ,  $\text{Pr}_6\text{O}_{11}$ ,  $\text{Sm}_2\text{O}_3$ ,  $\text{Sb}_2\text{O}_3$ ,  $\text{SiO}$ ,  $\text{Se}_2\text{O}_3$ ,  $\text{SnO}_2$  and  $\text{WO}_3$ .

**23. (previously presented)** A pigment according to claim 3, wherein the dielectric material having a high index of refraction is selected from one or more of ZnS, ZnO,  $\text{ZrO}_2$ ,  $\text{TiO}_2$ , carbon,  $\text{In}_2\text{O}_3$ , indium tin oxide,  $\text{Ta}_2\text{O}_5$ ,  $\text{Cr}_2\text{O}_3$ ,  $\text{CeO}_2$ ,  $\text{Y}_2\text{O}_3$ ,  $\text{Eu}_2\text{O}_3$ ,  $\text{Fe}_3\text{O}_4$ ,  $\text{Fe}_2\text{O}_3$ , HfN, HfC,  $\text{HfO}_2$ ,  $\text{La}_2\text{O}_3$ ,  $\text{MgO}$ ,  $\text{Nd}_2\text{O}_3$ ,  $\text{Pr}_6\text{O}_{11}$ ,  $\text{Sm}_2\text{O}_3$ ,  $\text{Sb}_2\text{O}_3$ ,  $\text{SiO}$ ,  $\text{Se}_2\text{O}_3$ ,  $\text{SnO}_2$  and  $\text{WO}_3$ .